

What is claimed is:

1. An electrophotographic photoconductor,
comprising:

a conductive support; and

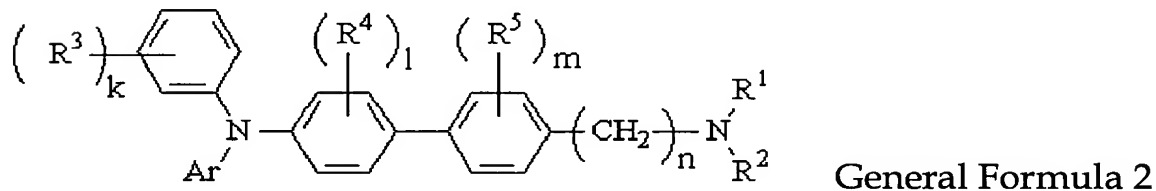
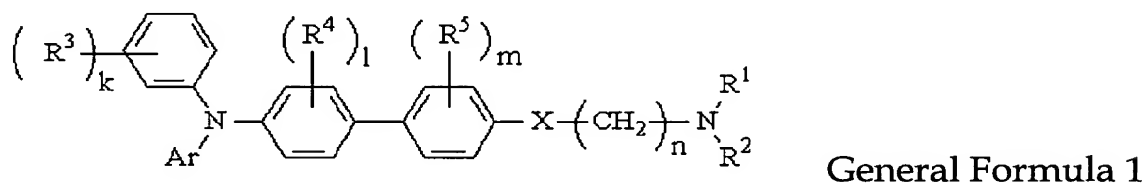
a photosensitive layer disposed above the
conductive support,

wherein the electrophotographic photoconductor, in
an outermost surface layer of the electrophotographic
photoconductor, comprises:

a filler,

an organic compound having an acid value of
10mgKOH/g to 400mgKOH/g, and

at least one of compounds represented by the
following general formulas 1 and 2:



where R^1 , R^2 are substituted or unsubstituted alkyl groups
or aromatic hydrocarbon rings, may be identical or

different, and R^1 , R^2 may also be bonded together to form a substituted or unsubstituted heterocycle containing a nitrogen atom; R^3 , R^4 , R^5 are substituted or unsubstituted alkyl or alkoxy groups, or halogen atoms; Ar is a substituted or unsubstituted aromatic hydrocarbon ring or aromatic heterocycle; n is an integer in the range 2 to 4; k, l, m are respectively integers in the range 0 to 3; and X is, in the general formula 1, an oxygen atom, or a sulfur atom.

2. An electrophotographic photoconductor according to Claim 1, wherein the organic compound having an acid value of 10mgKOH/g to 400mgKOH/g, is a polycarboxylic acid.

3. An electrophotographic photoconductor according to Claim 1, wherein the organic compound having an acid value of 10mgKOH/g to 400mgKOH/g, is one of a polyester resin, acrylic resin, a copolymer comprising these structures, and a mixture thereof.

4. An electrophotographic photoconductor according to Claim 1, wherein at least one of organic fatty acids is mixed with the organic compound having an acid value of 10mgKOH/g to 400mgKOH/g.

5. An electrophotographic photoconductor according to Claim 1, wherein the filler is at least one of inorganic materials.

6. An electrophotographic photoconductor according to Claim 5, wherein the inorganic material is a metal oxide.

7. An electrophotographic photoconductor according to Claim 5, wherein the pH of the inorganic material is 5 or more.

8. An electrophotographic photoconductor according to Claim 5, wherein the dielectric constant of the inorganic material is 5 or more.

9. An electrophotographic photoconductor according to Claim 1, wherein the average first -order particle diameter of the filler is 0.01 μ m to 0.5 μ m.

10. An electrophotographic photoconductor according to Claim 1, wherein the outermost surface layer is a photosensitive layer.

11. An electrophotographic photoconductor according to Claim 10, wherein the photosensitive layer

comprises a charge generating layer containing a charge generating material and a charge transport layer containing a charge transport material, the outermost surface layer being the charge transport layer.

12. An electrophotographic photoconductor according to Claim 11, wherein the charge transport material is a polymer charge transport material.

13. An electrophotographic photoconductor according to Claim 1, wherein the electrophotographic photoconductor comprises a protective layer, the protective layer being the outermost surface layer.

14. An electrophotographic photoconductor according to Claim 13, wherein the protective layer contains at least one of charge transport materials.

15. An electrophotographic photoconductor according to Claim 14, wherein the charge transport material is a polymer charge transport material.

16. An electrophotographic photoconductor according to Claim 1, wherein the outermost surface layer of the photoconductor contains at least one of a

polycarbonate resin and a polyarylate resin as a binder resin.

17. An electrophotographic photoconductor according to Claim 1, wherein the outermost surface layer is formed by coating an outermost surface layer coating solution containing:

a filler;

an organic compound having an acid value of 10 mgKOH/g to 400mgKOH/g;

at least one of compounds represented by the above general formulas 1 and 2; and

an antioxidant.

18. The electrophotographic photoconductor according to Claim 17, wherein the antioxidant is one of a hydroquinone compound and a hindered amine compound.

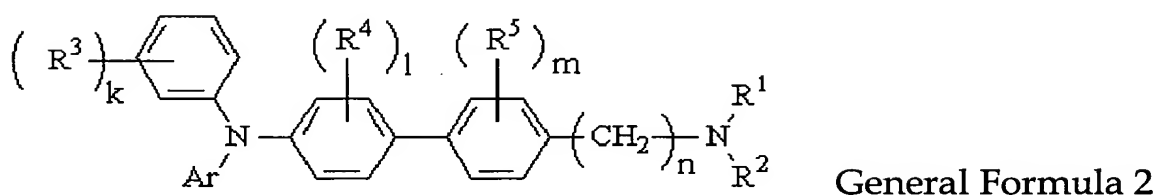
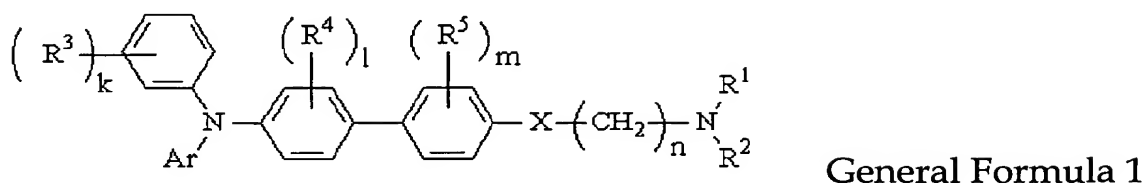
19. An electrophotographic photoconductor outermost surface layer coating solution, comprising:

a filler;

an organic compound having an acid value of 10mgKOH/g to 400mgKOH/g;

at least one of compounds represented by the

following general formulas 1 and 2:



where R¹, R² are substituted or unsubstituted alkyl groups or aromatic hydrocarbon rings, may be identical or different, and R¹, R² may also be bonded together to form a substituted or unsubstituted heterocycle containing a nitrogen atom; R³, R⁴, R⁵ are substituted or unsubstituted alkyl or alkoxy groups, or halogen atoms; Ar is a substituted or unsubstituted aromatic hydrocarbon ring or aromatic heterocycle; n is an integer in the range 2 to 4; k, l, m are respectively integers in the range 0 to 3; and X is, in the general formula 1, an oxygen atom, or a sulfur atom; and

an antioxidant.

20. An electrophotographic photoconductor
outermost surface layer coating solution according to

Claim 19, wherein the antioxidant is one of a hydroquinone compound and a hindered amine compound.

21. An electrophotographic method, comprising the steps of:

charging an electrophotographic photoconductor;

exposing the charged photoconductor with an imagewise light so as to form an latent electrostatic image thereon;

supplying a developer to the formed latent electrostatic image so that a toner image is formed, thereby visualizing the latent electrostatic image; and

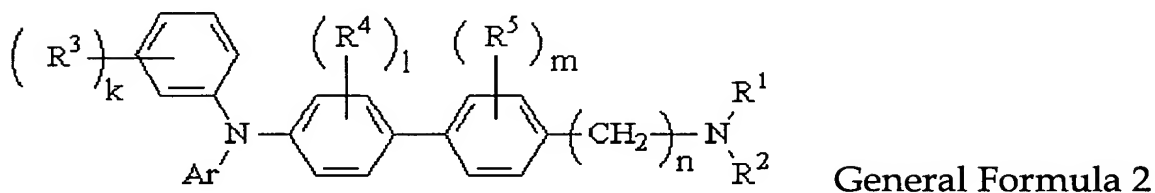
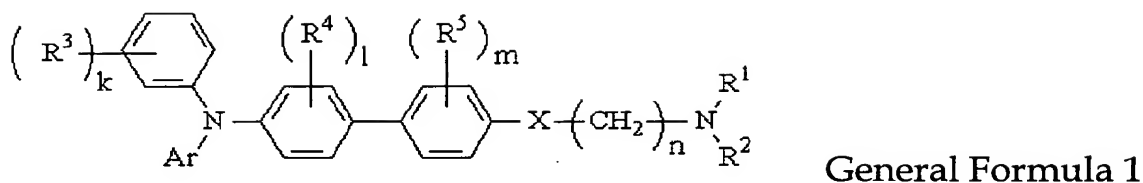
transferring the toner image formed by the developing step to a transfer material,

wherein the electrophotographic photoconductor, in an outermost surface layer of the electrophotographic photoconductor, comprises:

a filler,

an organic compound having an acid value of 10mgKOH/g to 400mgKOH/g, and

at least one of compounds represented by the following general formulas 1 and 2:



where R¹, R² are substituted or unsubstituted alkyl groups or aromatic hydrocarbon rings, may be identical or different, and R¹, R² may also be bonded together to form a substituted or unsubstituted heterocycle containing a nitrogen atom; R³, R⁴, R⁵ are substituted or unsubstituted alkyl or alkoxy groups, or halogen atoms; Ar is a substituted or unsubstituted aromatic hydrocarbon ring or aromatic heterocycle; n is an integer in the range 2 to 4; k, l, m are respectively integers in the range 0 to 3; and X is, in the general formula 1, an oxygen atom, or a sulfur atom.

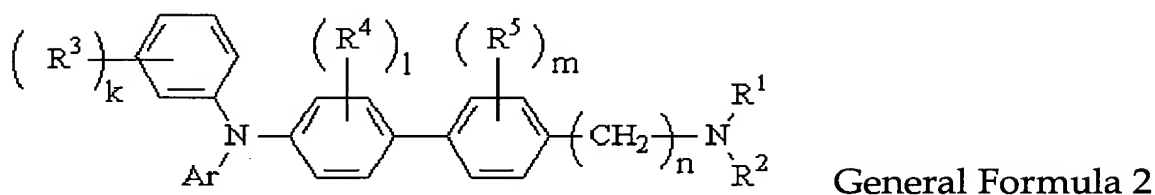
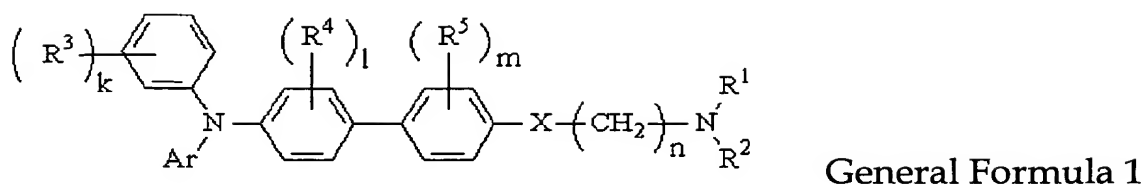
22. An electrophotographic method according to Claim 21, wherein the exposure step employs a "digital method" where the latent electrostatic image is written on the electrophotographic photoconductor by a LD or LED.

23. An electrophotographic apparatus, comprising:

- an electrophotographic photoconductor;
- a charger configured to uniformly charge a surface of the electrophotographic photoconductor;
- an exposure unit configured to expose the charged photoconductor by the charger with an imagewise light so as to form an latent electrostatic image on the photoconductor;
- a developing unit configured to supply a developer to the latent electrostatic image so that a toner image is formed, thereby visualizing the latent electrostatic image; and
- a transfer unit configured to transfer the formed toner image by the developing unit to a transfer material,

wherein the electrophotographic photoconductor, in an outermost surface layer of the electrophotographic photoconductor, comprises:

- a filler,
- an organic compound having an acid value of 10mgKOH/g to 400mgKOH/g, and
- at least one of compounds represented by the following general formulas 1 and 2:



where, in the general formulas 1 and 2, R¹, R² are substituted or unsubstituted alkyl groups or aromatic hydrocarbon rings, may be identical or different, and R¹, R² may also be bonded together to form a substituted or unsubstituted heterocycle containing a nitrogen atom; R³, R⁴, R⁵ are substituted or unsubstituted alkyl or alkoxy groups, or halogen atoms; Ar is a substituted or unsubstituted aromatic hydrocarbon ring or aromatic heterocycle; n is an integer in the range 2 to 4, and k, l, m are respectively integers in the range 0 to 3; and X is, in the general formula 1, an oxygen atom, or a sulfur atom.

24. An electrophotographic apparatus according to Claim 23, wherein the exposure unit employs a "digital method" where the latent electrostatic image is written on the electrophotographic photoconductor by a LD or LED.

25. An electrophotographic process cartridge,
comprising:

an electrophotographic photoconductor; and
at least one of

a charger configured to uniformly charge a surface
of the electrophotographic photoconductor,

a cleaning unit configured to clean the surface of the
electrophotographic photoconductor, and

a developing unit configured to supply a developer
to a latent electrostatic image formed on the
electrophotographic photoconductor so that a toner image
is formed, thereby visualizing the latent electrostatic
image,

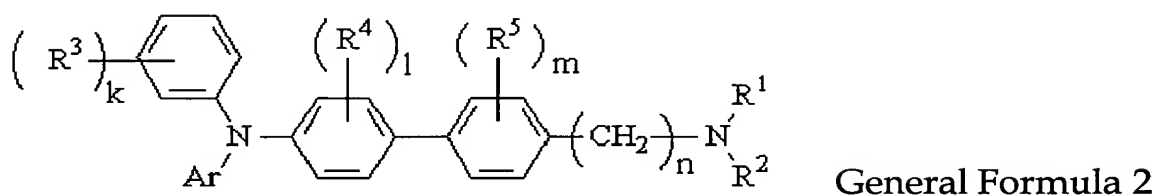
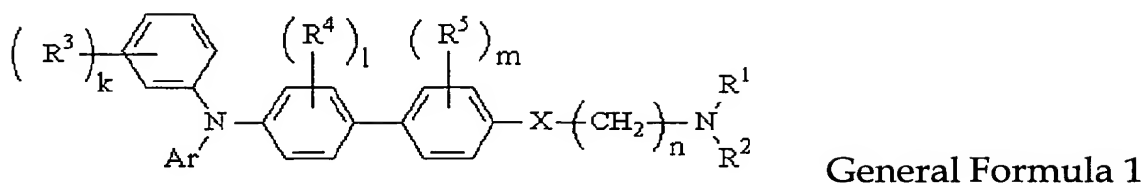
wherein the electrophotographic process cartridge is
formed in a one-piece construction such that the
electrophotographic process cartridge is freely replaceable
from an electrophotographic apparatus, and wherein the
electrophotographic photoconductor, in an outermost
surface layer of the electrophotographic photoconductor,
contains:

a filler,

an organic compound having an acid value of
10mgKOH/g to 400mgKOH/g, and

at least one of compounds represented by the

following general formulas 1 and 2:



where R¹, R² are substituted or unsubstituted alkyl groups or aromatic hydrocarbon rings, may be identical or different, and R¹, R² may also be bonded together to form a substituted or unsubstituted heterocycle containing a nitrogen atom; R³, R⁴, R⁵ are substituted or unsubstituted alkyl or alkoxy groups, or halogen atoms; Ar is a substituted or unsubstituted aromatic hydrocarbon ring or aromatic heterocycle; n is an integer in the range 2 to 4; k, l, m are respectively integers in the range 0 to 3; and X is, in the general formula 1, an oxygen atom, or a sulfur atom.